

## **MULTI-BAND RING FOCUS ANTENNA SYSTEM**

### **ABSTRACT OF THE INVENTION**

Method and apparatus for feeding a compact main reflector of an RF antenna on a plurality of spectrally offset frequency bands. The method can  
5 include the steps of forming a focal ring for a main reflector (304) by positioning an RF source (301) at a first frequency within a first frequency band in the far field relative to a shaped non-linear surface of revolution so that the shaped non-linear surface of revolution forms a subreflector (302).

A second focal ring can be formed for the main reflector (304) by positioning  
10 a second RF source (300) in the nearfield of the shaped non-linear surface of revolution.